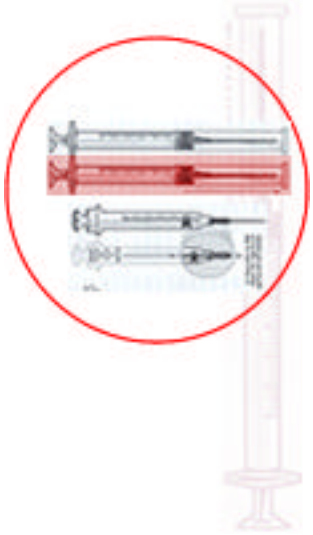
NIOSH recommends that health care facilities use safer medical devices to protect workers from needlestick and other sharps injuries. Since the passage of the Needlestick Safety and Prevention Act in 2000 and the subsequent revision of the OSHA Bloodborne Pathogen Standard, all health care facilities are required to use safer medical devices.

SAFER MEDICAL DEVICE IMPLEMENTATION IN HEALTH CARE FACILITIES

SHARING LESSONS LEARNED

NIOSH has asked a small number of health care facilities to share their experiences on how they implemented safer medical devices in their settings. These facilities have agreed to describe how each step was accomplished, and also to discuss the barriers they encountered and how they were resolved, and most importantly, lessons learned.



Phase 2 – Identify Priorities

Description of Facility

Our hospital is licensed for approximately 300 beds and serves a diverse patient population ranging from neonates to geriatric patients. There are three critical care units including a level III+ neonatal intensive care unit (NICU). The hospital has one of the highest volumes of surgical cases in the region. Surgical services are provided through an in-patient general surgical center and two ambulatory surgical centers. A sub-acute unit, a medical-psychiatric unit, and a dialysis unit are on site. Specialty services include Neonatology, Ophthalmology, an Endoscopy Center, and a comprehensive Oncology Service. The community recognizes the OB Service as a center of excellence. Outpatient diagnostic and treatment facilities include a Cardiac Catheter Laboratory, Radiation Oncology, a Diabetes and Nutrition Center, and a Wound Care Center. A community health center offers 7 day a week urgent care services to inner-city residents, in addition to providing care in a number of specialties including pediatrics, and HIV care.

List the types of information used by your facility to determine priorities for implementing safer medical devices. Indicate why each type of information was collected and how the information was obtained.

Our sharps injury prevention team used information from a variety of sources to determine priorities. Most important was the sharps injury statistics presented to our Infection Control Committee each month by the employee health department. Because every incident of occupational exposure to bloodborne pathogens is reported and managed through our employee health department, we hoped to assess the patterns and underlying causes of injury unique to our hospital through careful analysis and trending of the data.

However, a review of the literature on the epidemiology of sharps injuries showed that under reporting of exposures is quite common, particularly among physicians. We interviewed several surgeons to determine how many times they had a percutaneous exposure and whether or not the incident was reported through employee health. In those cases where the incident remained unreported, we solicited information from the physician regarding the nature of the injury and the device and procedure associated with the incident.

Because our facility conducts a very large volume of surgical procedures, we anticipated finding the highest numbers of injuries in our operating rooms. Therefore, we conducted a literature search through our medical library and the Internet to determine how other facilities identified priorities for reducing sharps injuries in the surgical setting. We determined that other facilities also depended on local data collected through employee health to establish what devices were responsible for the largest percentage of sharps injuries.

What lessons were learned during the process of identifying priorities and developing priorities for intervention? Describe the difficulties encountered and the way problems were resolved.

It became evident early on in the process of reviewing the data that our needlestick surveillance system was not adequate for the team to make decisions about an appropriate interventions. Critical details such as the type of device and procedure associated with a sharps injury were not being collected prospectively. The incidents were tabulated in word processing document instead of database, so it was difficult to tabulate and analyze sharps injury data. In short, we could not effectively determine our priorities because of the quality of the data.

This issue prompted the team to investigate how other facilities were tracking and trending sharp injury data. The team's designated coordinator had used the EPINet (Exposure Prevention Information Network) system when he was employed at another acute care facility. He presented information about EPINet to the team and discussed the advantages of using it compared to the established system. The EPINet system provides a uniform approach for recording bloodborne pathogen exposures and provides specific identification of the devices, procedures, and clinical areas associated with exposures. It can tabulate numerous statistical reports automatically and aggregate data to determine injury and exposure patterns.

The team was convinced that sharps injury incidents be documented and analyzed using the EPINet system. EPINet is employed by over 1500 hospitals in the United States and periodically publishes sharps injury rates among participating hospitals, which can be used for benchmarking. This feature also proved attractive to the team for it offered us the possibility of comparing our sharps injury rates to other acute care facilities. The EPINet program was selected as our new sharps injury surveillance system because it provides a standardized system for tracking occupational blood exposures.

Ultimately our decision to trial a safety scalpel for surgical procedures was predicated on the data collected and analyzed through EPINet. Once we procured and installed the EPINet software, exposure incident data was prospectively collected and entered into the database so that tabulation and analysis of injury patterns could be performed. We also retrospectively reviewed exposure incidents collected through the previous surveillance process and entering them into the EPINet database.

What would you do different if you were to begin this process again?
Before beginning the process, we would insure the data which supported this initiative provided enough detail to select an appropriate intervention. Because there was reticence on the part of employee health to change sharps injury surveillance systems, the team could have appealed to administration and the infection control committee for support to make the change to EPINet.

What advice would you offer a similar facility that is just starting this process?
Other facilities should carefully consider the quality of their sharps injury surveillance data collection process and analysis, as incomplete or inaccurate information can lead to incorrect conclusions or a lack of consensus regarding priorities. Also, it is important to gain agreement among all stakeholders about the necessity for an effective sharps injury surveillance system.

What role did your sharps injury prevention team play in this process?
The team played in important role by making a formal recommendation to the hospital's Infection Control Committee to use the EPINet system. The recommendation was made after the team had reviewed 12 months of data (2001) and could not attribute sharps injuries to any specific procedures or devices.

Please provide any other information you wish to share about the process used or problems encountered in developing priorities for intervention.
Determining priorities for implementing a safer medical device that prevents sharps injury should consider the epidemiology of injury taking place in one's own facility. Surveillance data must include the type of device, the procedure, the department or area where the incident occurred, the occupation of the injured party, and an assessment of whether a safety engineered sharp could have prevented the incident.

Materials: The above referenced EPINet forms and an article about benchmarking can be obtained from the EPINet website: http://hsc.virginia.edu/medcntr/centers/epinet/home.html

Staff Hours:

Type of Staff	Hours Spent on Phase 2
Management	12 hours
Administrative	6 hours
Front-line	8 hours
Total	26 hours